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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,314	07/30/2001	Kota Yoshikawa	010935	8261

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EXAMINER

GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 06/23/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/916,314

Applicant(s)

YOSHIKAWA, KOTA

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-20 is/are pending in the application.
- 4a) Of the above claim(s) 4-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action is in response to the amendment received April 9, 2003, paper no. 6. The abstract was amended. Claim 1 was cancelled. Claims 2 and 3 were amended. Claim 20 was added. Claims 4-19 remain withdrawn as non-elected.
2. The objection to the abstract set forth in paper no. 5, paragraph 2, is withdrawn due to the amendment.
3. The objection to claim 1 set forth in paper no. 5, paragraph 3, is withdrawn due to the cancellation of claim 1.
4. The rejection of claims 1-3 under 35 U.S.C. 102(b) as being anticipated by Tamano et al. (US 5,811,834) is withdrawn upon cancellation of claim 1 and upon reconsideration of claims 2 and 3.

### ***Claim Objections***

5. Claims 2 and 20 are objected to because of the following informalities:  
  
These claims recite "Re(rhenium) and **its** oxide". It is suggested this phrase be changed to "Re(rhenium) and rhenium oxide" for clarity.
6. Claim 20 is objected to because of the following informalities:
  - a. It is suggested the phrase "said second conductive film formed a laminated film consisting of..." in claim 20 would be more clear "said second conductive film is formed of a laminated film consisting of...".
  - b. Claim 20 requires that the second conductive film be formed from a laminated film consisting of conductive film containing *any one* of at least one type metal selected

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from a group consisting of Ru, Rh, Ir, Os and Re and its oxide, and any one of a TiN film and a laminate film formed of a Ti film and a TiN film on said Ti film. It is unclear if the second conductive film comprises both a metal and a Ti containing film or if the second conductive film comprises one of any of the metals or Ti-containing film, since the phrase "any one of" is at the beginning of the recitation of the group. For purposes of examination, the examiner has interpreted the claim to require both one of the metals and a Ti-containing film as the second conductive film. Appropriate correction and/or clarification is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 3 is rejected under 35 U.S.C. 102(e) as being anticipated by Arai et al. (US 2001/0041268). Arai et al. discloses EL devices comprising an anode, organic layers, and a cathode. Exemplary cathode materials are Li, Mg, Ca, Sr, Ba, Na, K, Rb, and Cs (see pg. 3, par. 38) per the instant first conductive film comprising an alkaline metal or an alkaline earth metal. The cathode (electron injecting electrode) is adjacent an organic layer (see pg. 2, par. 33). Over the cathode layer is a protective electrode

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comprising titanium nitride per the second conductive film (see page 3, par. 45). Arai et al. discloses all required components of instant claim 3.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamano et al. (US 5,811,834). Tamano et al. discloses organic electroluminescent devices comprising organic material between electrodes (see col. 23, line 56 through col. 24, line 48). The cathode may be formed of two layers or more and include materials such as magnesium and calcium (which are alkaline earth metal materials per the "first conductive film") as well as titanium and ruthenium per the instant "second conductive film". Although Tamano et al. fails to exemplify a device comprising a cathode comprising two layers wherein the layer closest to the organic layer is an alkaline metal or alkaline earth metal and the outermost layer is comprised of titanium or ruthenium, it would have been obvious to one of ordinary skill in the art at the time of the invention to have formed such a two-layered cathode, because Tamano et al. teaches a two layered cathode may be formed and teaches alkaline metals, alkaline earth metals, titanium and ruthenium as materials for the layers.

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11. Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamano et al. (US 5,811,834) in view of Arai et al. (US 2001/0041268). Tamano et al. discloses organic electroluminescent devices comprising organic material between electrodes (see col. 23, line 56 through col. 24, line 48). The cathode may be formed of two layers or more including materials such as magnesium and calcium (which are alkaline earth metal materials per the "first conductive film") as well as titanium and ruthenium per the instant "second conductive film". Although Tamano et al. fails to exemplify a device comprising a cathode comprising two layers wherein the layer closest to the organic layer is an alkaline metal or alkaline earth metal and the outermost layer is comprised of titanium or ruthenium, it would have been obvious to one of ordinary skill in the art at the time of the invention to have formed such a layered cathode, because Tamano et al. teaches a two layered cathode may be formed and teaches all of the required elemental materials. Tamano et al. fails to teach a protective layer over the cathode of the device. Arai teaches in analogous art a protective electrode over the cathode comprising titanium nitride for protecting the electron injecting electrode from surrounding atmosphere and moisture, for preventing the thin films from deterioration, for stabilizing the efficiency of electron injection, and for increasing the lifetime of the device (see page 3, par. 45). It would have been obvious to one of ordinary skill in the art at the time of the invention to have added a protective electrode over the Tamano cathode based on the teachings of Arai, because Arai teaches the benefits of a protective layer to increase the durability of an EL device.

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***Response to Arguments***

12. Applicant's arguments with respect to claims 2, 3, and 20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (703) 305-0788. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.

  
DAWN GARRETT  
PATENT EXAMINER  
TECHNOLOGY CENTER 1700

D.G.  
June 17, 2003